

# I-91 VIADUCT STUDY

Springfield, Massachusetts



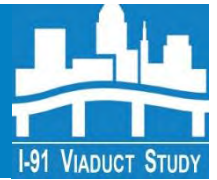
## Public Meeting #2

UMASS Springfield – Tower Square  
Springfield, Massachusetts  
6:00 PM-8:00 PM  
December 6, 2016





# Welcomes & Introductions

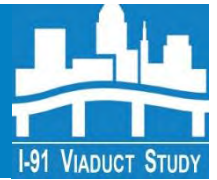


- Ethan Britland – Project Manager (MassDOT)
- Mark Arigoni, L.A. – Principal-in-Charge (MMI)
- Van Kacoyannakis, P.E. – Traffic (MMI)
- Tim Baird, AICP – Planning (MMI)
- John Hoey - QA/QC (MMI)
- Rich Doughty, P.E. (MMI)
- Sarah Paritsky – Public Involvement (Regina Villa)





# Agenda



## ■ Welcome & Introductions

## ■ Part I: Presentation

- Overview of Working Group Meetings 4-8
- Getting to 3 Alternatives
- Next Steps

## ■ Part II: Open House

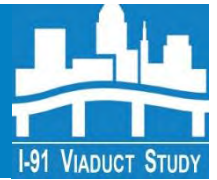
### ■ Break-Out Stations

- 1. Station 1: I-291 & 91 Area
- 2. Station 2: Memorial Bridge & Downtown
- 3. Station 3: South End Bridge & Long Meadow Curves
- 4. Economic Development and Bike/Ped Improvement

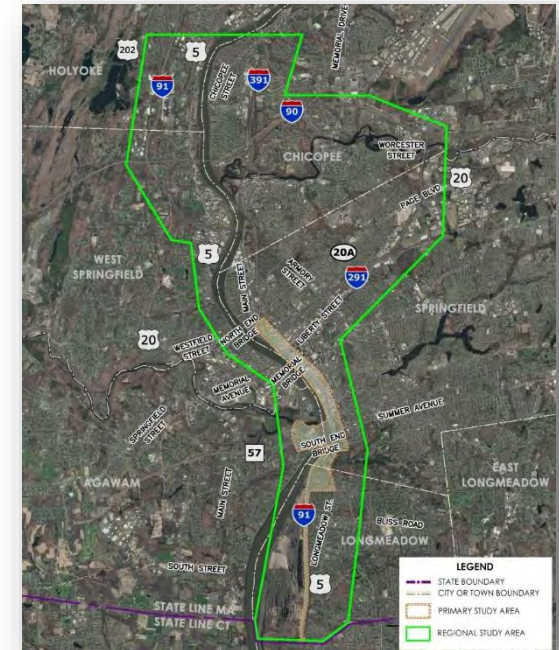
### ■ Mingle. Review. Ask Questions



# Study Purpose

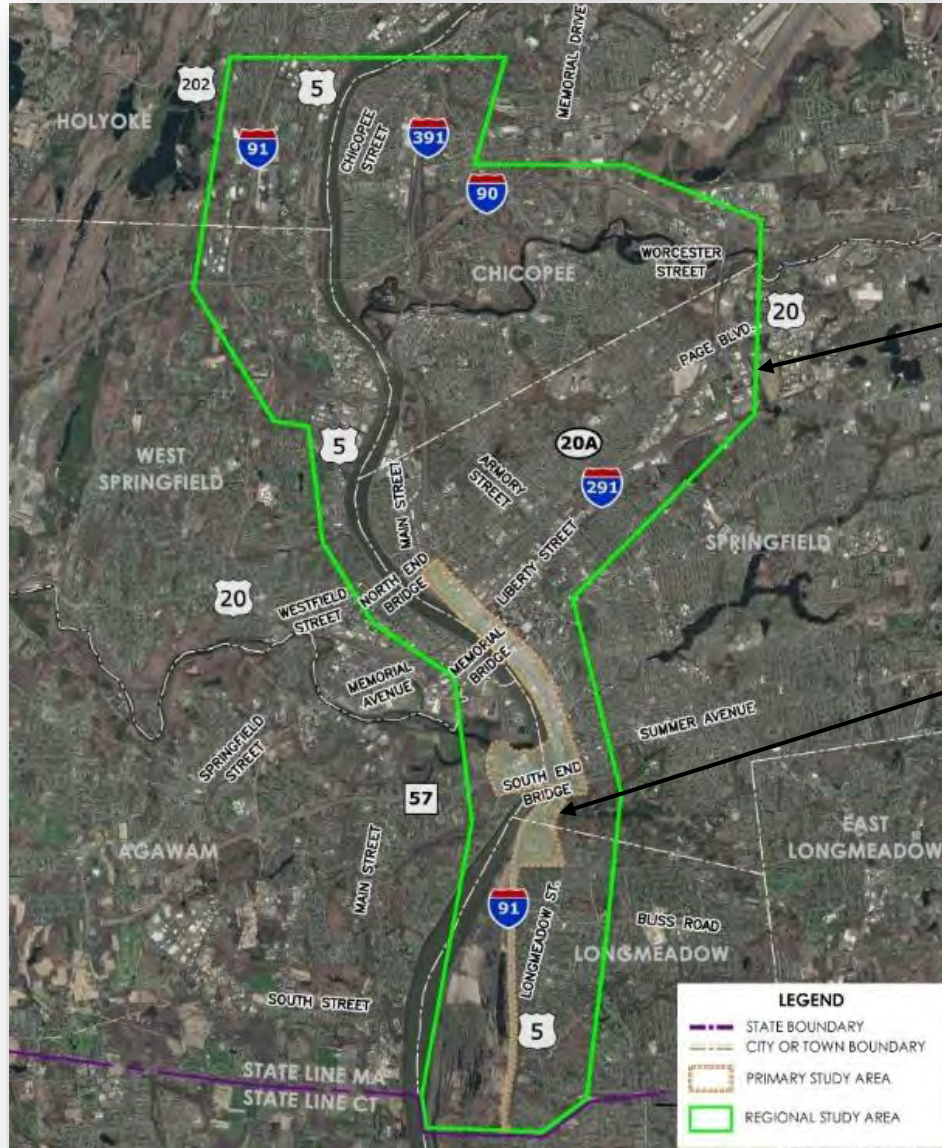
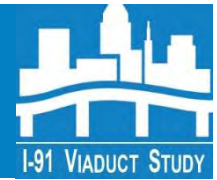


- Develop a Conceptual Planning Study which produces short-, medium-, and long-term recommendations - that will ultimately result in an actual project
- Evaluate Highway Alternatives which:
  - Move traffic safely and efficiently on I-91
  - Enhance the Viaduct's presence within the community
  - Improve overall safety for all modes of transportation
  - Increase multimodal connectivity and accessibility between the downtown urban core and the riverfront





# Study Area(s)

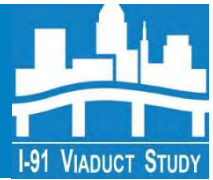


Regional Study Area

Primary Study Area



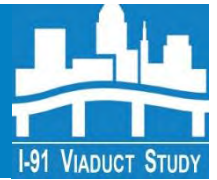
# Study Process



- Task 1: Study Area, Goals & Objectives, Evaluation Criteria, and Public Involvement Plan
- Task 2: Existing Conditions, Future No-Build Conditions & Issues Evaluation
- Task 3: Alternatives Development
- **Task 4: Alternatives Analysis**
- Task 5: Recommendations
- Task 6: Final Report



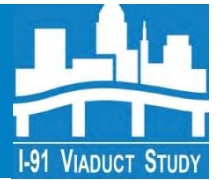
# Review of Work Completed



- Study Purpose & Process
- Public & Stakeholder Involvement Process
- Regional & Primary Study Areas
- Goals & Objectives
- Evaluation Criteria
- Existing Conditions- Issues, Constraints, & Opportunities
- Public Health – Integrated Health Impact Assessment (HIA) Aspects into Study
- (2040) Future “No Build Conditions”



# Review of Work Completed

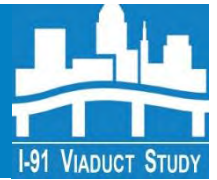


- Preliminary Concepts Developed (Line Drawings)
- Potential Impacts & Benefits of Each
- General Alternatives Themes
  - Elevated
  - At-Grade
  - Depression
  - Relocated
  - Railroad
  - Tunnel
- Short & Mid-Term Improvements
- Working Group Discussions





# Review of Working Groups



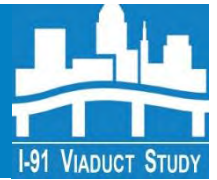
## ■ Alternatives removed for further consideration

- ❌ At-Grade Option
- ❌ I-91 North & Southbound Split (East & West Side)
- ❌ New Route 5 Bridge Connection (East & West Side)
- ❌ Tunnel Only Option
- ❌ I-91 relocated to West Side (Agawam & West Springfield)



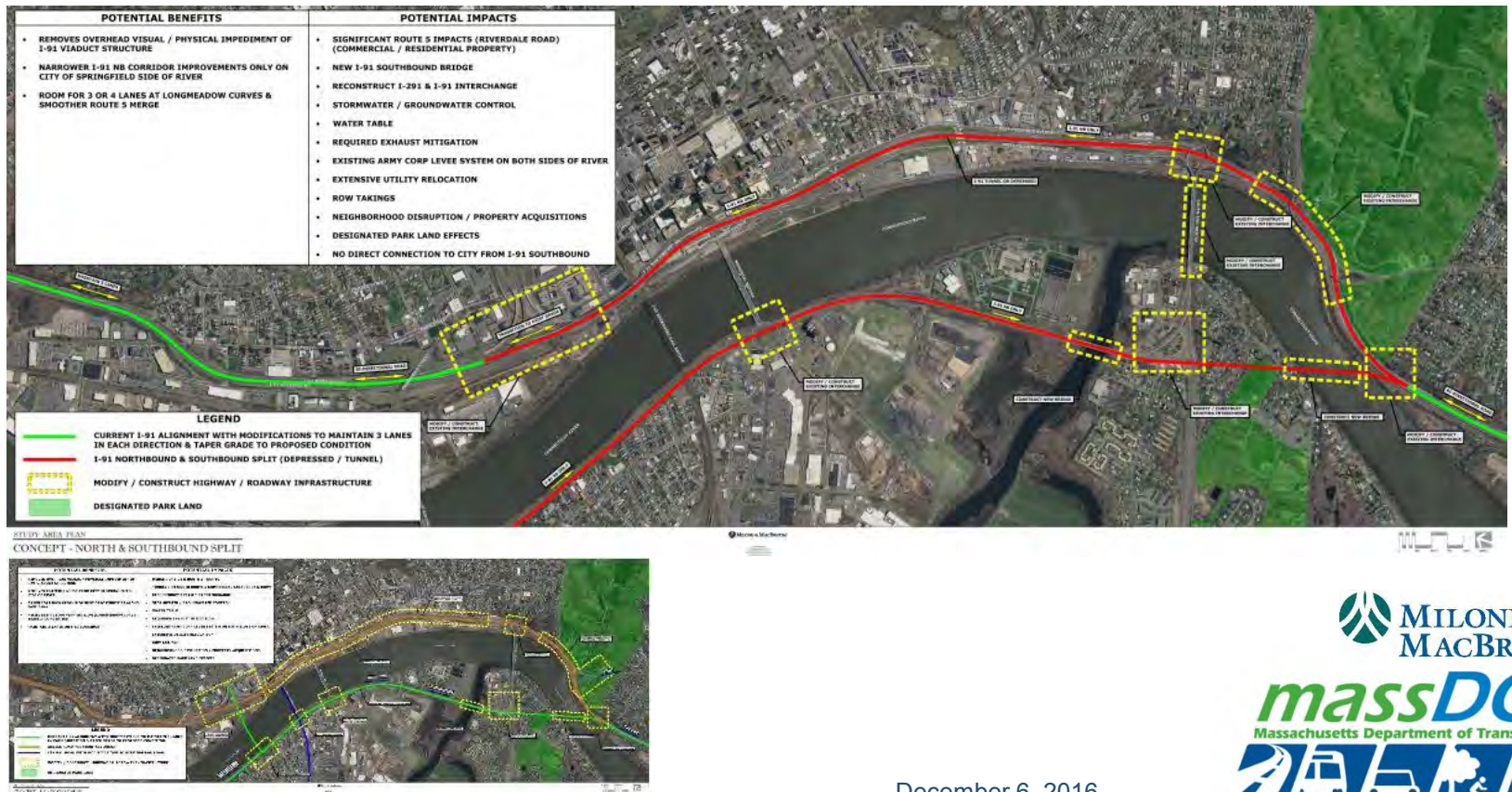


# Review of Working Groups



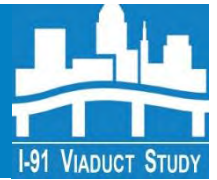
## Alternative removed for further consideration

### I-91 North & Southbound Split (East & West Side)





# Review of Working Groups



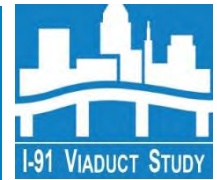
## Alternative removed for further consideration

### New Route 5 Bridge Connection

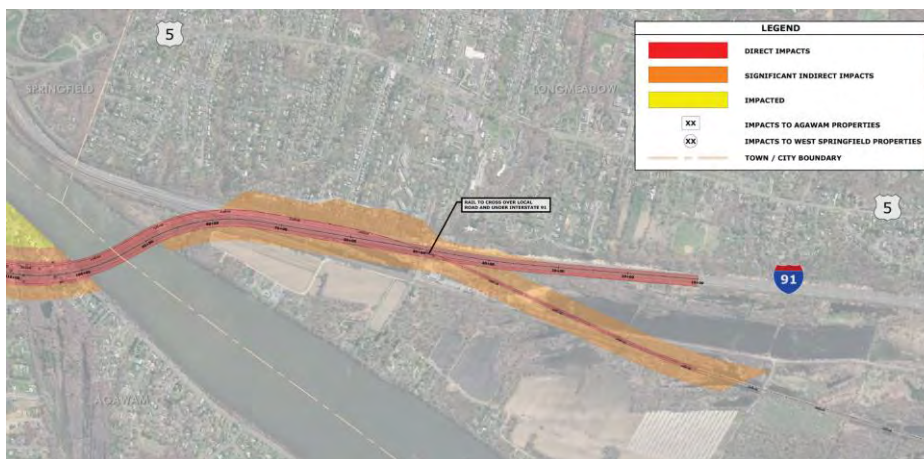




# Review of Additional Assessment Effort



## I-91 relocated to West Side (Agawam & West Springfield)



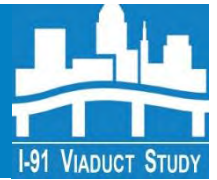
- More detailed look into Impacts & Benefits associated with relocated Rail and Highway to West Side of Connecticut River Alternative.
- Impacts determined to be unacceptable and not in balance with benefits of proposed alternative.
- Impacts mapping & technical memorandum provided to working group

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# Review of Working Groups



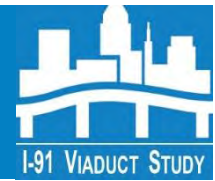
## ■ Refinement to 3 Alternatives

- Sunken, Tunnel, or Combination(s) following current I-91 Alignment
- Sunken, Tunnel, or Combination(s) following modified I-91 Alignment (section of combined rail and highway corridor)
- Reconstructed Elevated Structure (Modern Viaduct)

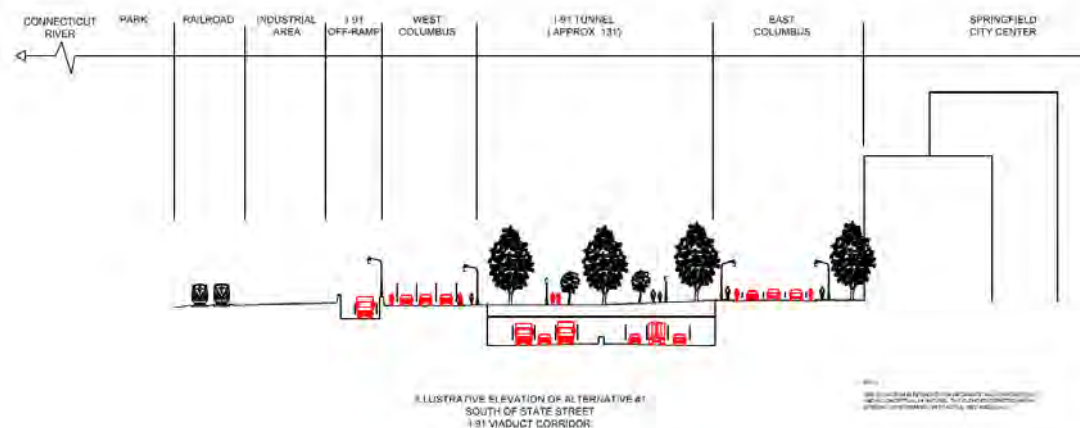
## ■ Discussion of Short & Mid-term Alternatives



# Review of Working Group Meetings Alternative No.1



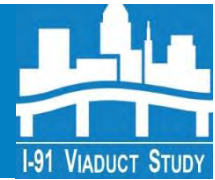
Refined sunken alternative following *current* I-91 Alignment



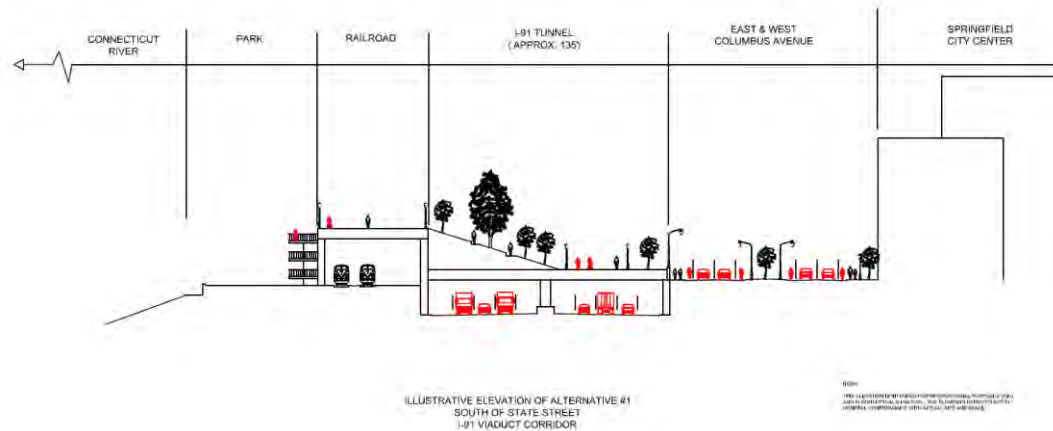
Illustrative Section Proposed Conditions



# Review of Working Group Meetings Alternative No.2

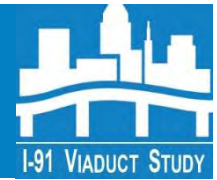


## Sunken following modified I-91 Alignment

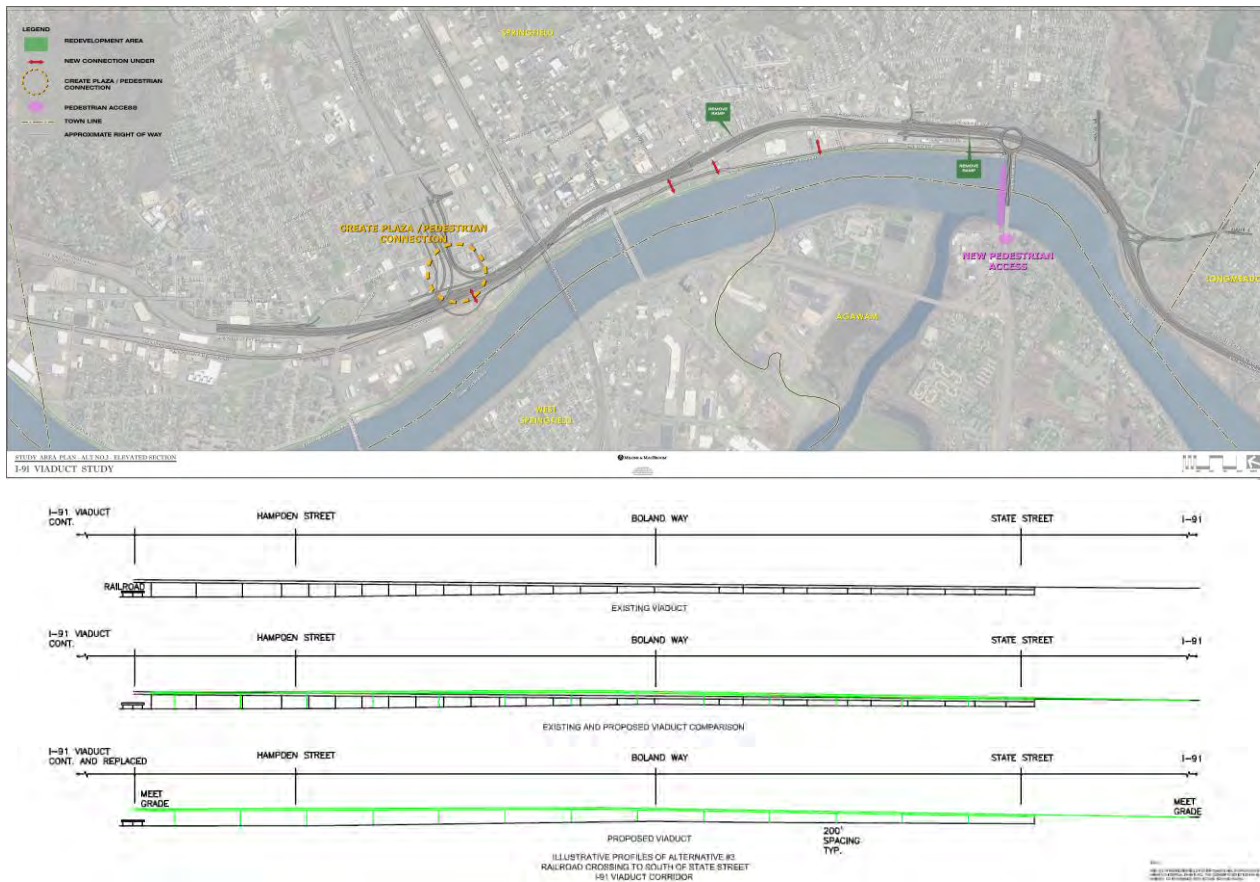




# Review of Working Group Meetings Alternative No.3



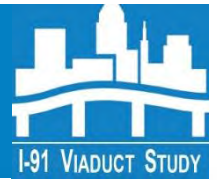
## Reconstructed Elevated Structure (Modern Viaduct)



Longitudinal view along the viaduct, highlighting a potential increased spacing between piers and an increased viaduct height through the downtown



# Short Term Alternatives



- Under Viaduct Health, Safety, and Aesthetic Improvements
- Create or Enhance Neighborhood connections to Downtown Core & the River.
- Provide better, safer, and more visible access to pedestrian bridge behind old basketball Hall of Fame or relocate structure
- Improve and enhance existing walkway underneath the railroad into Riverfront Park
- Upgrade at-grade crossing in riverfront park to an active crossing

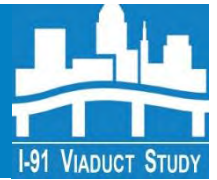


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# Short Term Alternatives

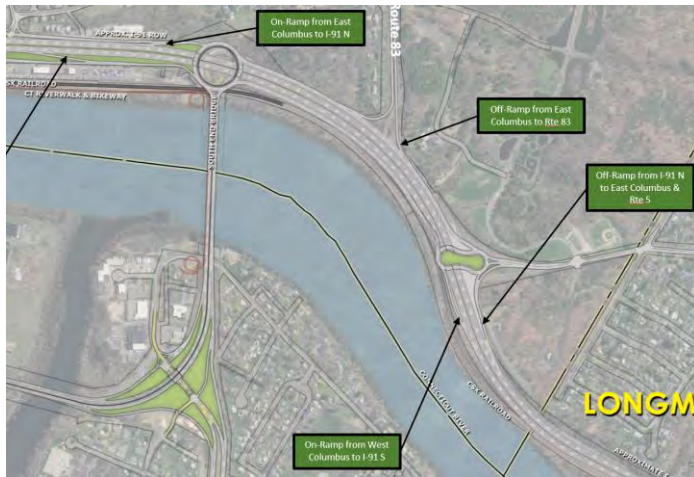
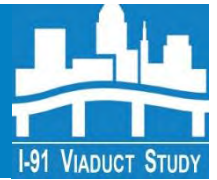


- Upgrade at-grade crossing in river front park to an active crossing
- Provide sidewalk in Springfield on the west side of Route 5 to connect Forest Park to Longmeadow
- Provide right-turn lane (@ Forest Glen) & revise timing at signalized intersection of Route 5 & Forest Glen Road (Longmeadow)

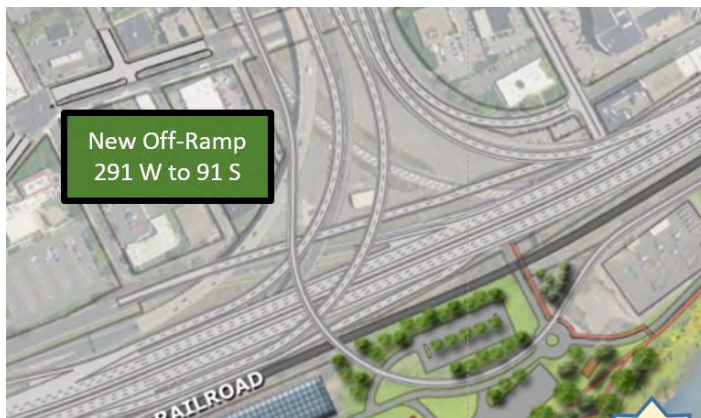




# Mid-Term Alternatives



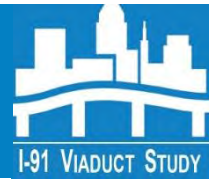
Improvements to the Longmeadow curve infrastructure and traffic flow, including alleviation of Lane Drop & Merging



Improvements to the I-291 to I-91 South on-ramp infrastructure and connection to the Memorial Bridge



# Refinement of Evaluation Criteria



## ■ Significant MASSDOT & MASSDPH Coordination

Massachusetts Department of Public Health  
Bureau of Environmental Health

## ■ Comprehensive Evaluation Criteria that include Health Pathways within.....

- Mobility & Accessibility, Safety, Environmental Effects
- Land Use & Economic Development
- Community Effects, and Cost

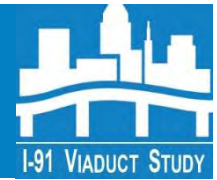


## Creating a Balance:

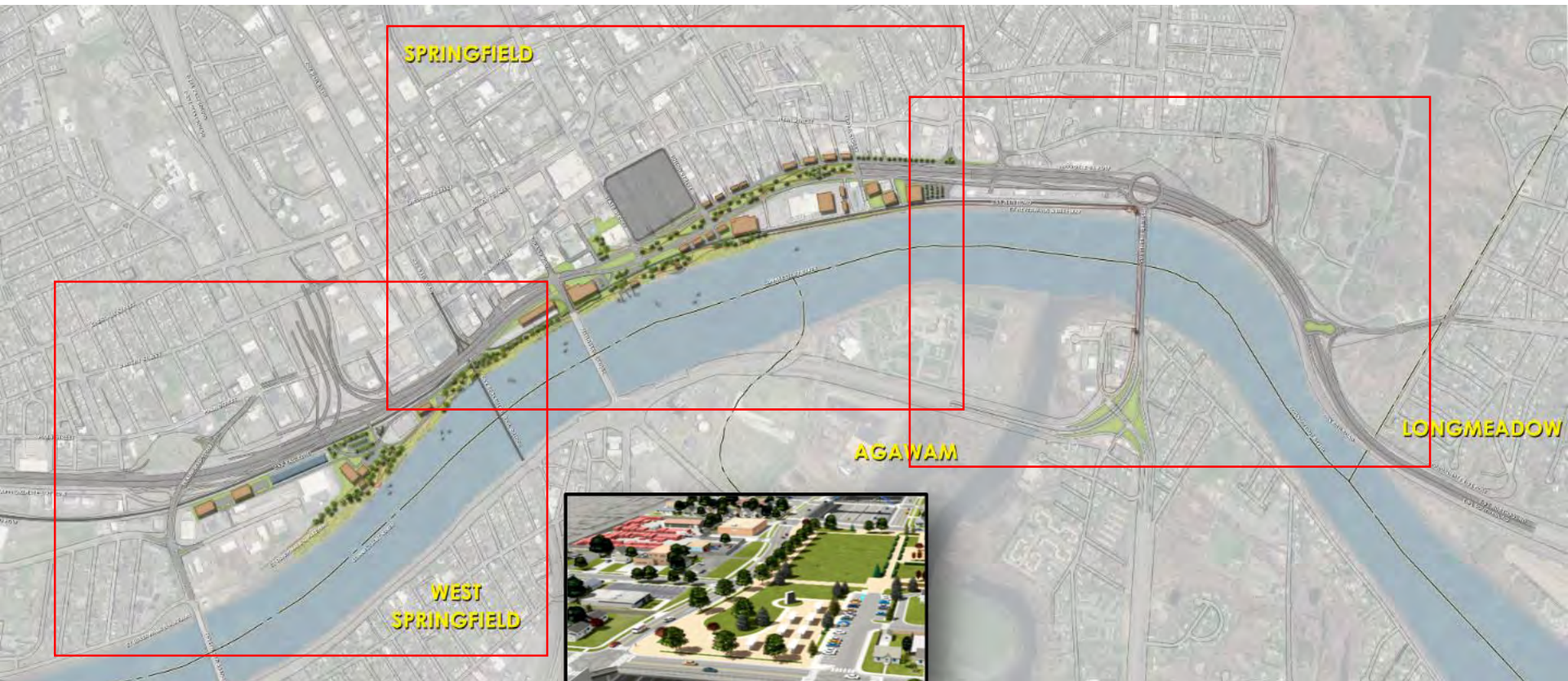
- Improving Safety & Function of the Highway/Roadway Systems
- Create or Enhance Neighborhood connections to Downtown Core & the River
- Enhance access to existing development parcels, and create new development parcels



# Alternative No.1 – Refined & Developed



## Sunken following current I-91 Alignment



**Conceptual Planning Study:** This graphic represents a hypothetical development scenario that could be representative of potential future development along the I-91 Viaduct Corridor and is shown for general informational purposes. Any actual future development that occurs along this corridor may vary from this conceptual representation.



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## Sunken following current I-91 Alignment



**A: Eco-Industrial Park, Sustainable Incentive Business, Green Industry**  
Approximately 60,000 Square Feet (SF) Building Footprint & 100,000 SF Solar Shown

**B: Multi-story Riverfront Residential Development & Restaurant**  
Approximately 100,000 SF Development & Parking with River Access

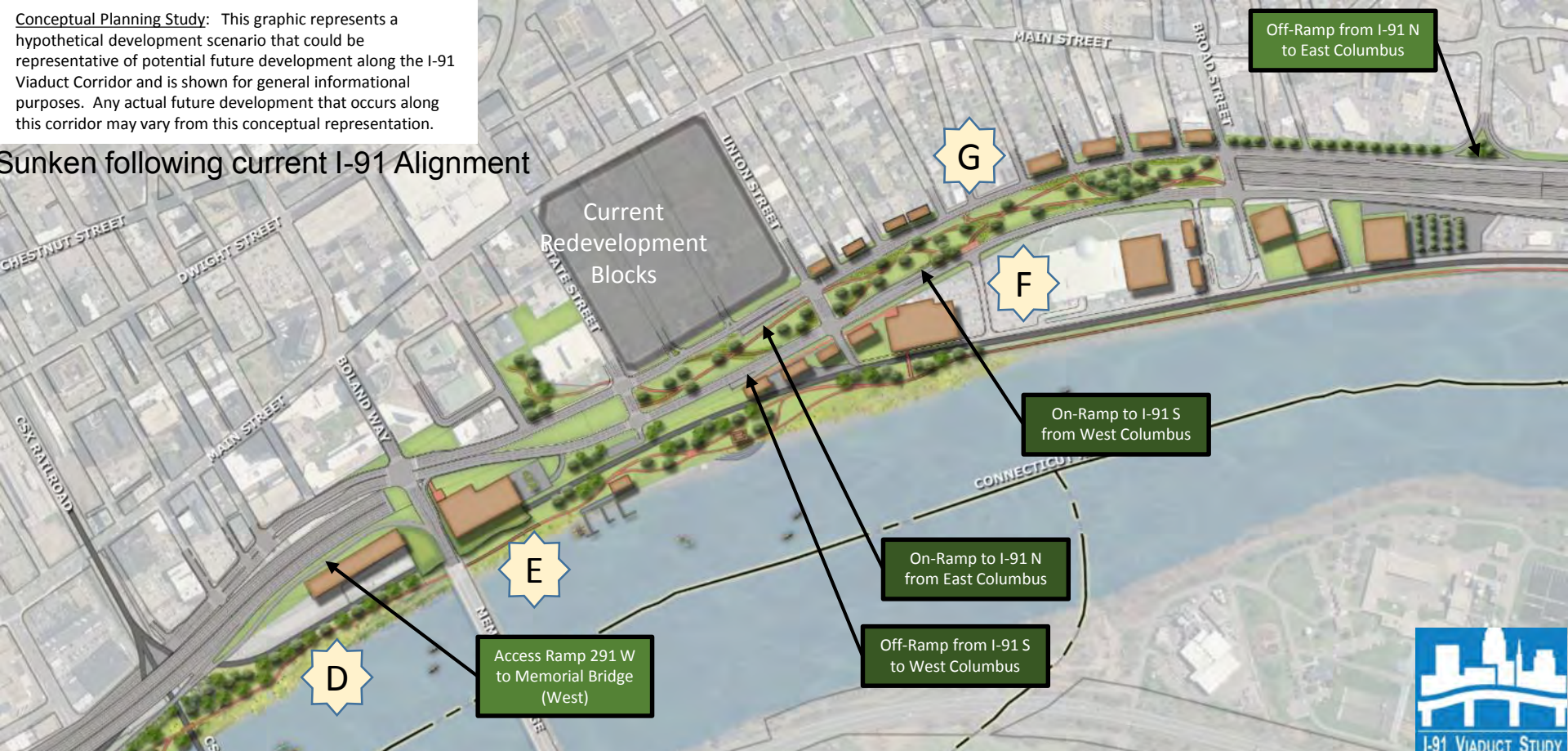
**C: Enhanced Riverfront Access and Park Space along Bikeway**





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## Sunken following current I-91 Alignment



**D: Reconstructed I-91 North Garage** (80,000 SF Footprint)

**E: Multi-story Riverfront Residential Development & Retail**

Approximately 130,000 SF Development & Parking

Garage, Elevated Green Terrace over Rail, Park Connection to Downtown & Riverfront Park, Marina

**F: Parkview & Riverfront Development (West Columbus & Hall of Fame)**

New Development along sunken & covered I-91 Park Corridor West (Approx. 267,000 SF Development)

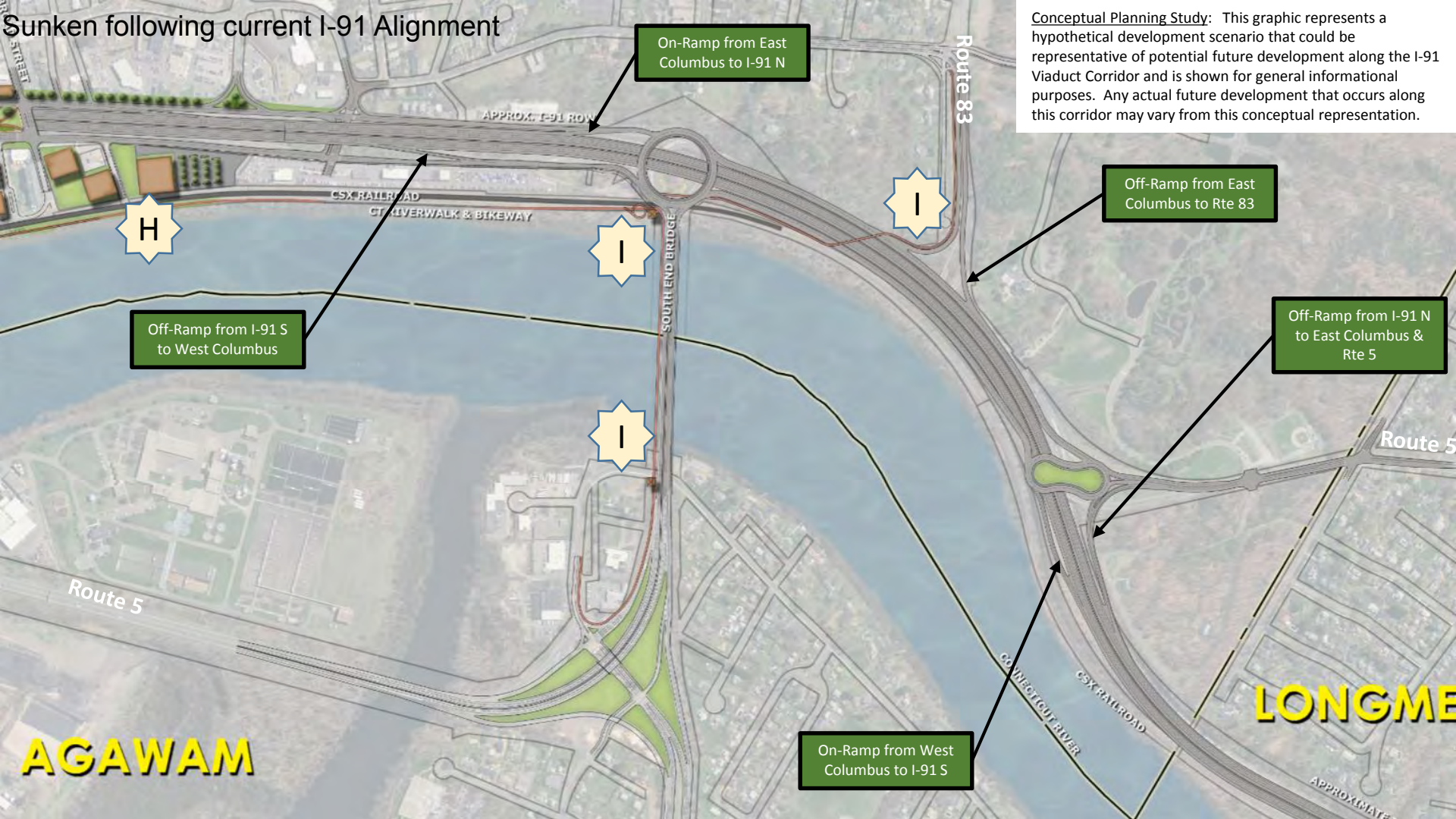
24

**G: Parkview Development (East Columbus)**





Sunken following current I-91 Alignment



Conceptual Planning Study: This graphic represents a hypothetical development scenario that could be representative of potential future development along the I-91 Viaduct Corridor and is shown for general informational purposes. Any actual future development that occurs along this corridor may vary from this conceptual representation.

## H: Gateway Development

Approximately 140,000 Square Feet (SF) Development

## I: Connecticut River Bikeway Extension

Accessible Ramps up to Bridge Elevation, New Bridge or Modification of existing to allow Bike Accommodation to

Agawam Side, Construct Accessible Ramps to River Road (remove stair case). Also includes Bikeway extension under

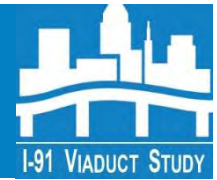
South End Bridge, along West Columbus, over I-91, to Forest Park.

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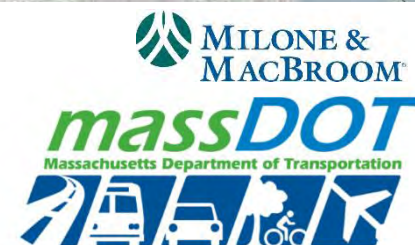
# Alternative No. 2 – Refined & Developed



## Sunken following modified I-91 Alignment



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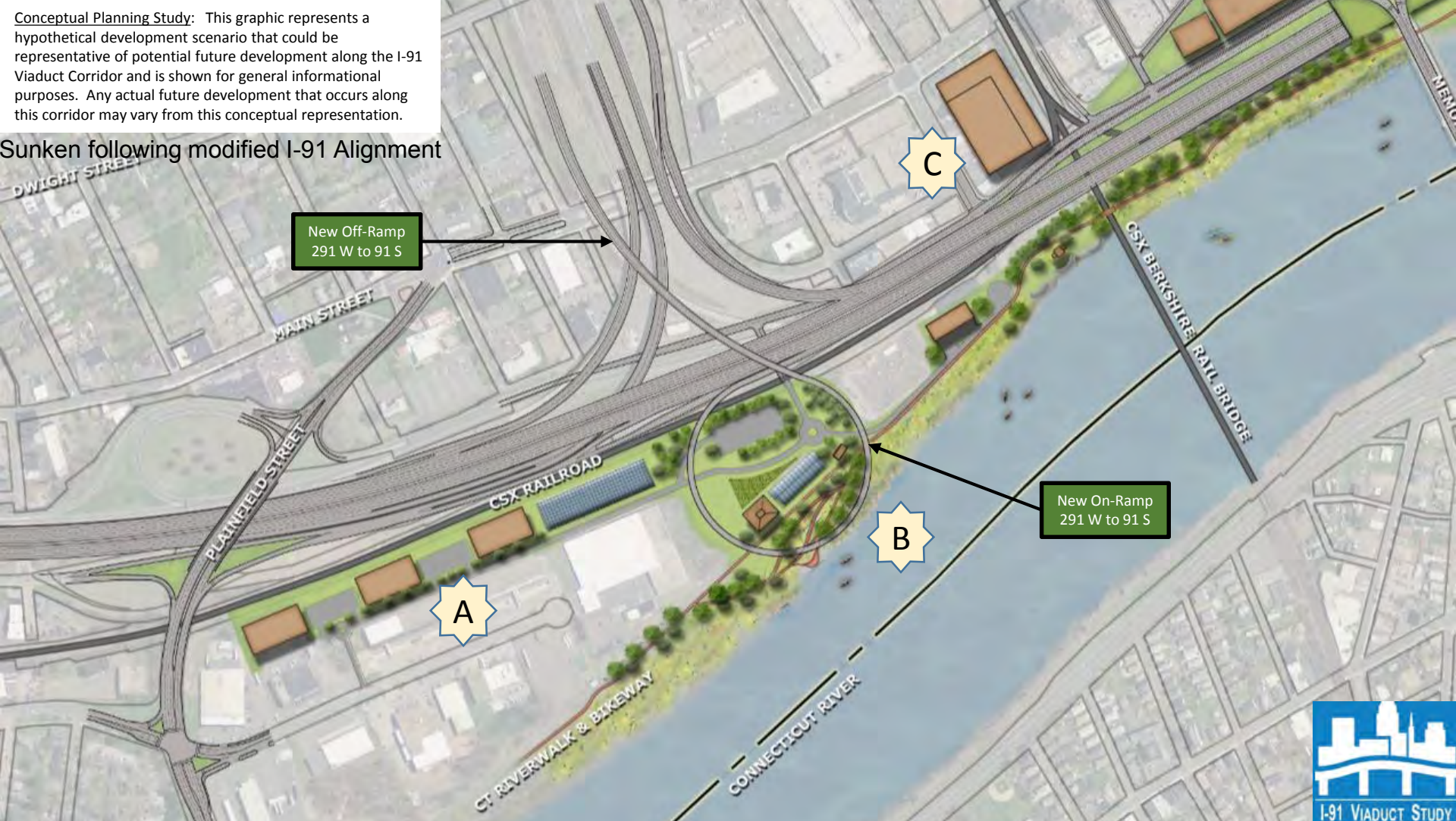


December 6, 2016



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Sunken following modified I-91 Alignment



**A: Eco-Industrial Park, Sustainable Incentive Business, Green Industry**

Approximately 90,000 Square Feet (SF) Building Footprint & 70,000 SF Solar Shown

**B: Public/Private Community Greenhouse & Gardens**

Approximately 10,000 SF Development and Parking with River Access

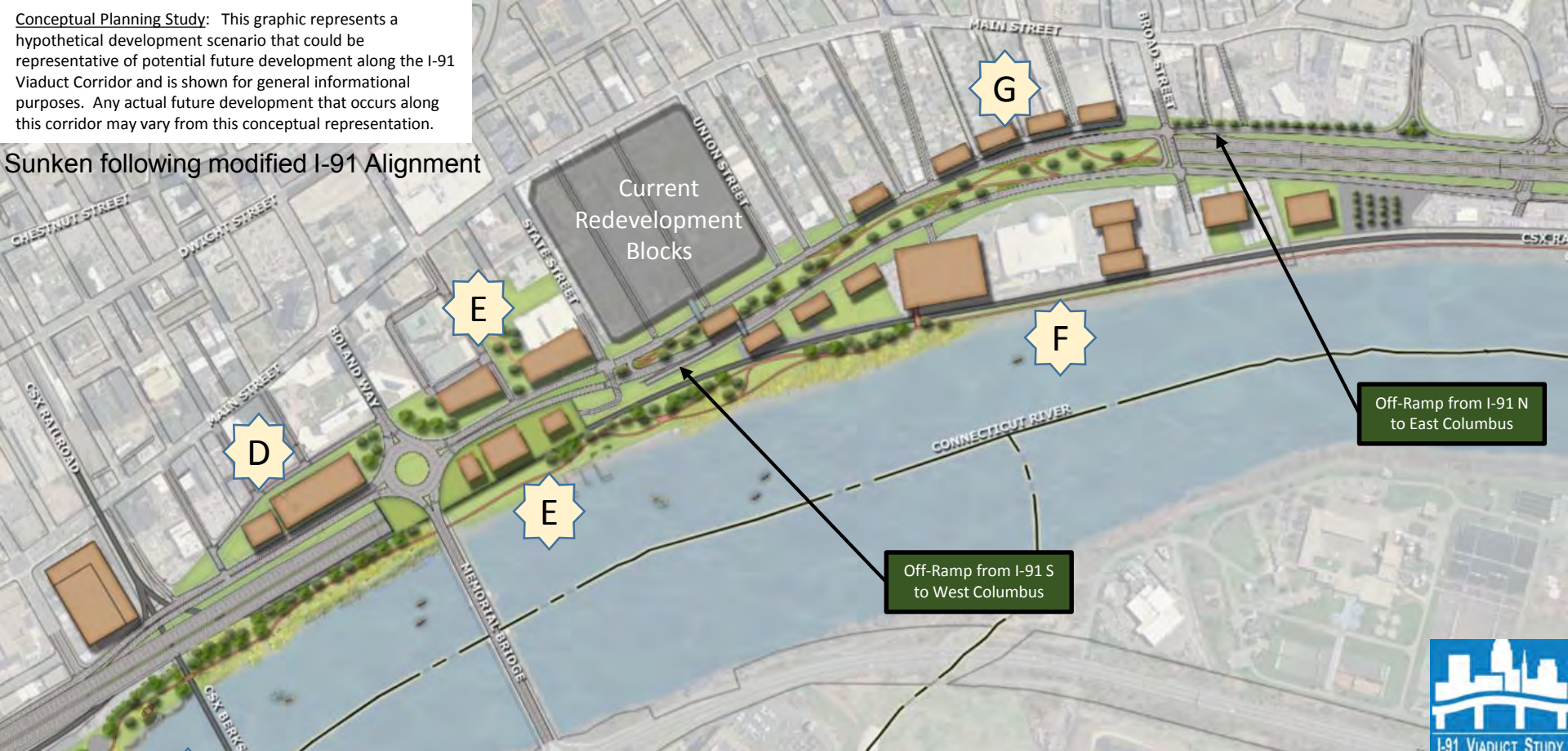
**C: Parking Garage** (Approximately 110,000)





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Sunken following modified I-91 Alignment



**D: Multi-story City Center North Development**

Approximately 160,000 SF Development & Parking

**E: Bridgeview & Riverfront Development (Memorial Bridge/Riverfront Park)**

New Development along and above I-91 Park Corridor with approx. 300,000 SF Development, Parking Garage under Elevated  
Green Terrace over Rail, Connection to Downtown & Riverfront

**F: Parkview & Hall of Fame Development West**

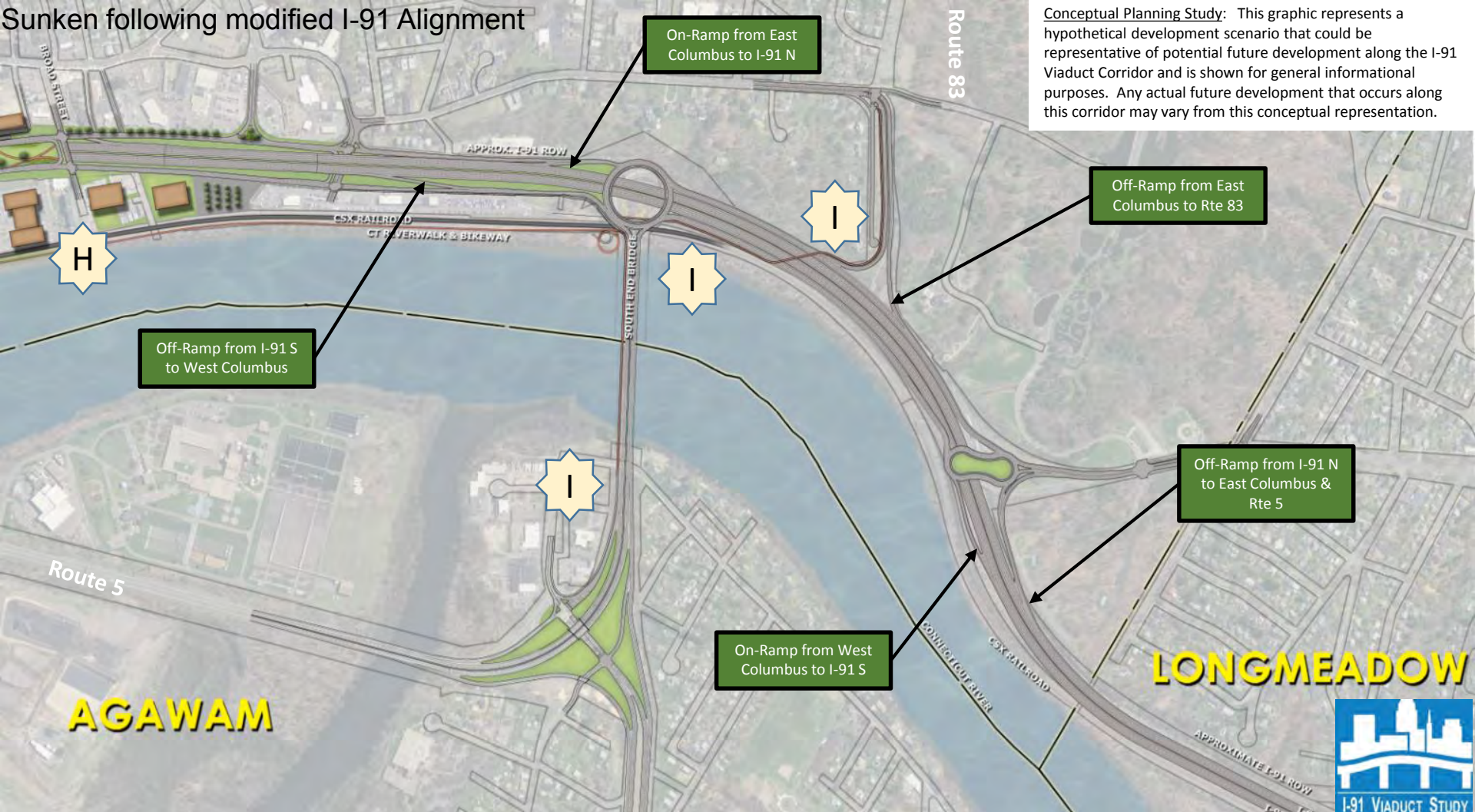
New Development along and above I-91 Park Corridor with approx. 405,000 SF Development with new Parking Garage at HOF, and Skywalk Connections to Casino from West Columbus

**G: Parkview Development (East Columbus)**





# Sunken following modified I-91 Alignment



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## H: Gateway Development

Approximately 120,000 Square Feet (SF) Development

## I: Connecticut River Bikeway Extension

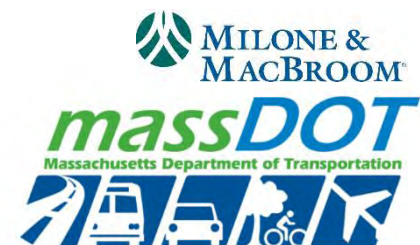
Accessible Ramps up to Bridge Elevation, New Bridge or Modification of existing to allow Bike Accommodation

to

Agawam Side, Construct Accessible Ramps to River Road (remove stair case). Also includes Bikeway extension under

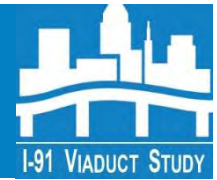
29 South End Bridge, along West Columbus, over I-91, to Forest Park.

December 6, 2016

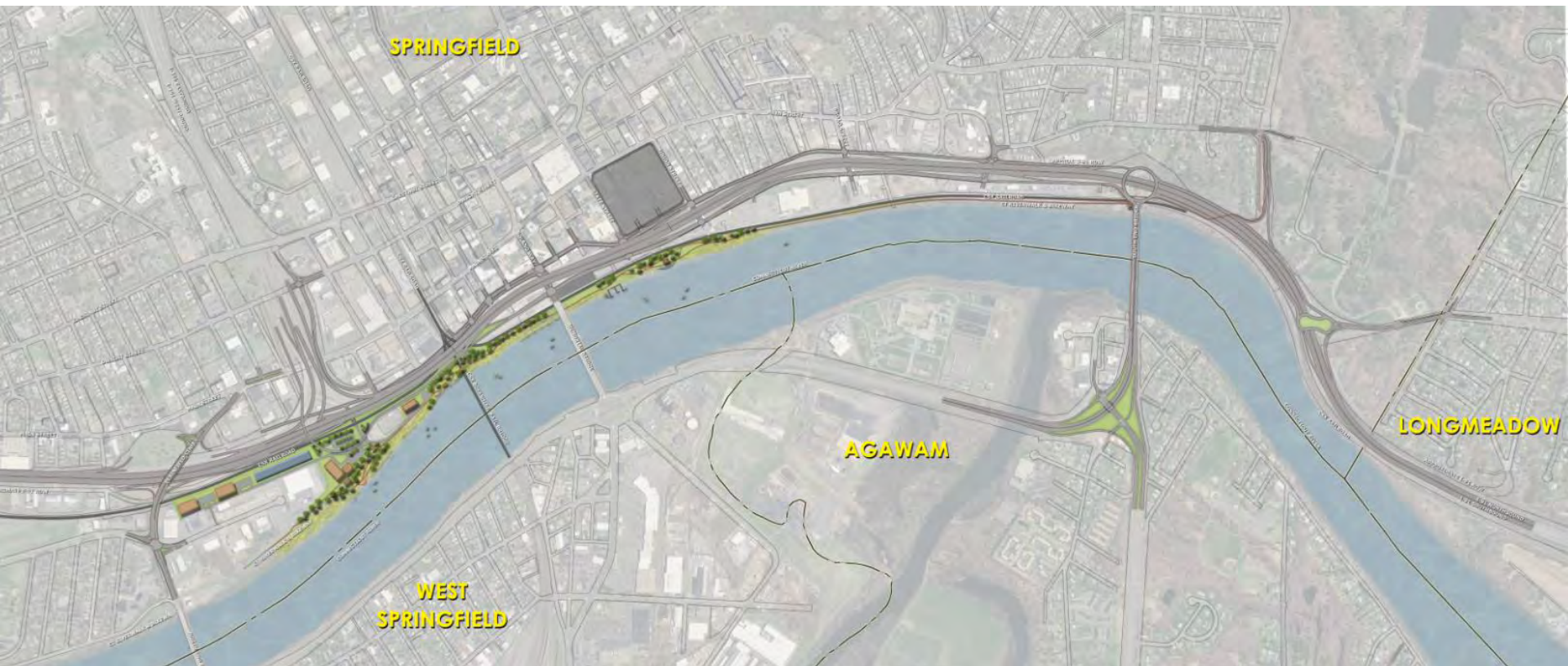




# Review of Working Group Meeting Alternative No.3

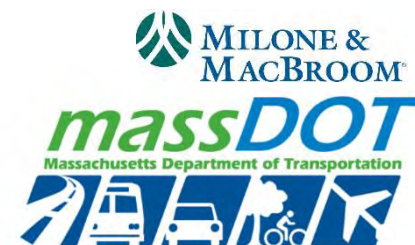


## Reconstructed Elevated Structure (Modern Viaduct)



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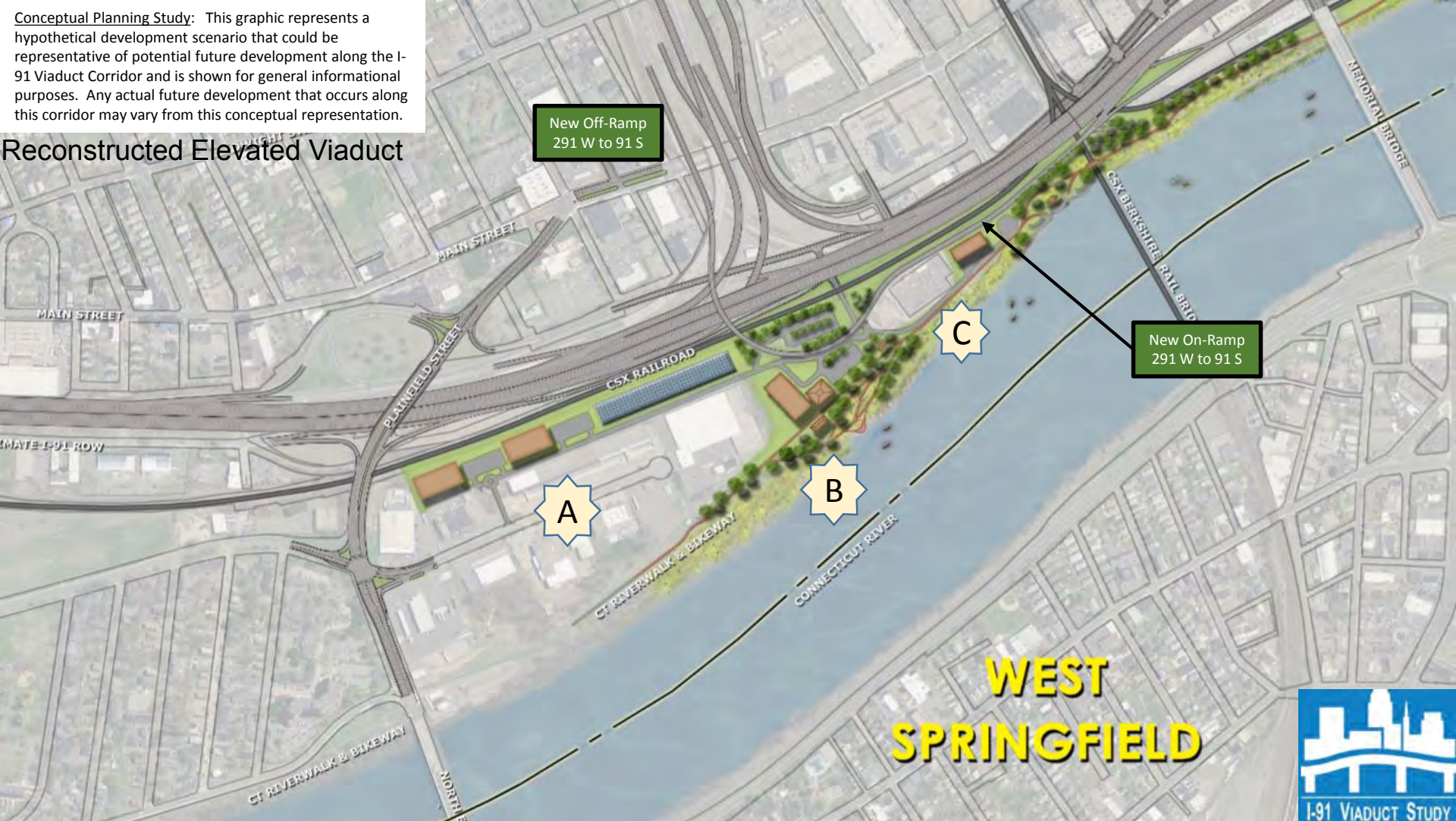
December 6, 2016





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## Reconstructed Elevated Viaduct



### A: Eco-Industrial Park, Sustainable Incentive Business, Green Industry

Approximately 60,000 Square Feet (SF) Building Footprint & 100,000 SF Solar Shown

### B: Multi-story Riverfront Residential Development & Restaurant

Approximately 100,000 SF of Development, Parking with River Access

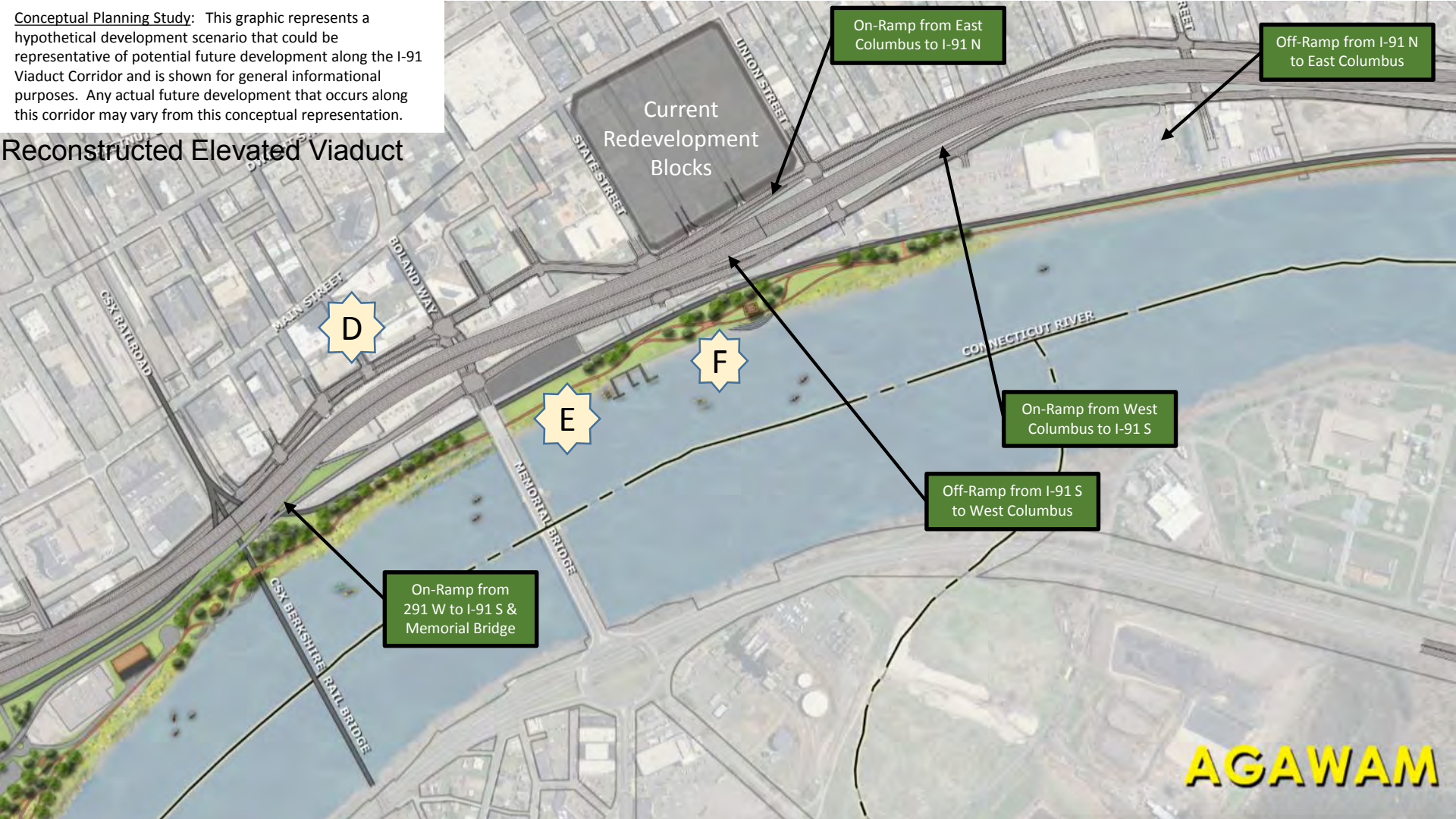
### C: Enhanced Riverfront Access and Park Space along Bikeway





Conceptual Planning Study: This graphic represents a hypothetical development scenario that could be representative of potential future development along the I-91 Viaduct Corridor and is shown for general informational purposes. Any actual future development that occurs along this corridor may vary from this conceptual representation.

## Reconstructed Elevated Viaduct



**D: I-91 North Garage Remains. Enhance Riverfront and River Access**

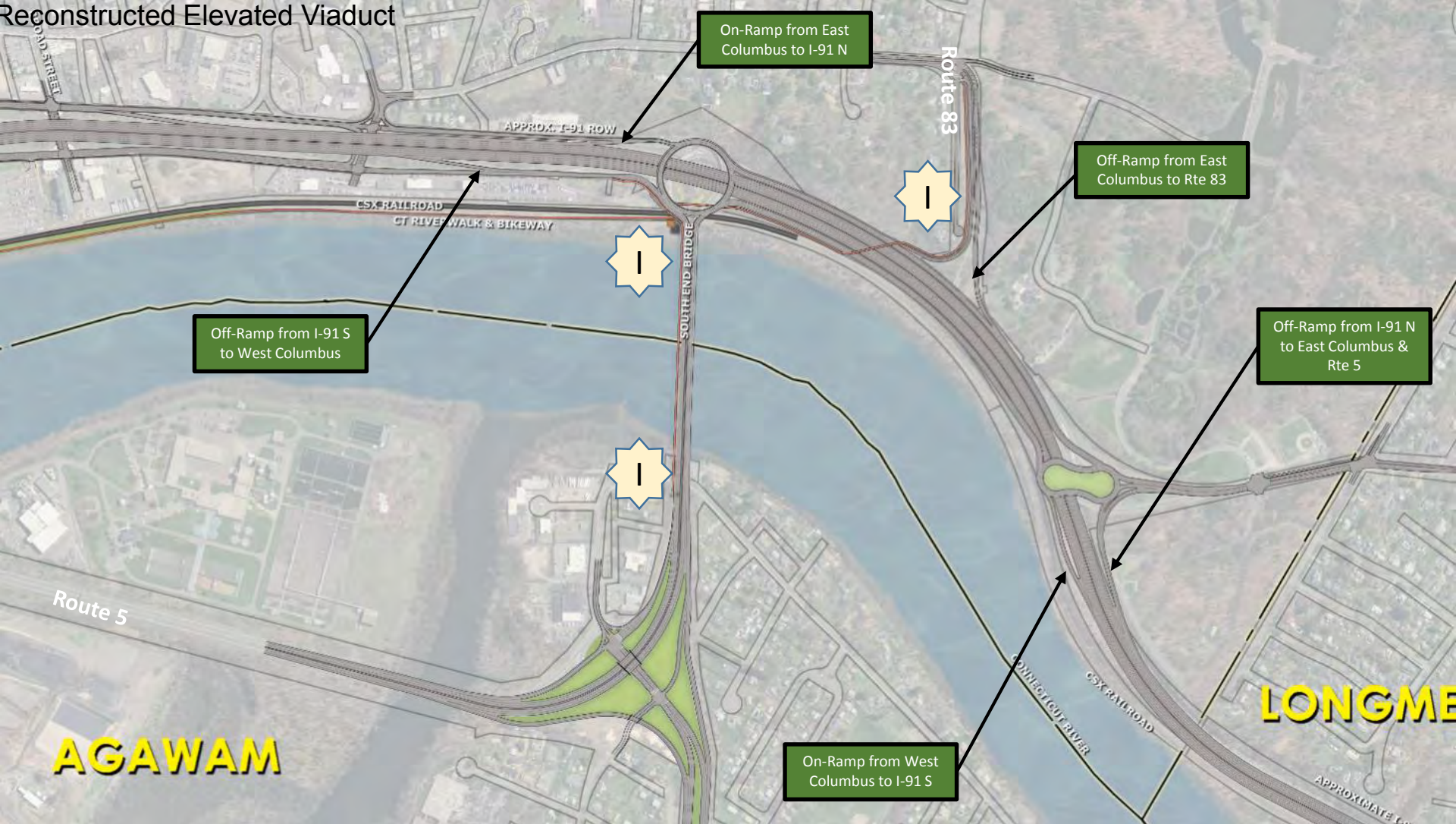
**E: Remove I-91 South Garage. Enhance Connection under New Viaduct**

**F: Enhanced Riverfront Access and Park Space along Bikeway**





# Reconstructed Elevated Viaduct



## I: Connecticut River Bikeway Extension

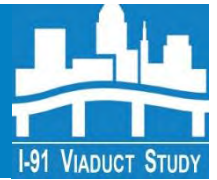
Accessible Ramps up to Bridge Elevation, New Bridge or Modification of existing to allow Bike Accommodation to

Agawam Side, Construct Accessible Ramps to River Road (remove stair case). Also includes Bikeway extension under

South End Bridge, along West Columbus, over I-91, to Forest Park.



# Economic Development Summary



- For each alternative - model redevelopment potential and its impacts on population, jobs, households, and earnings
- Collaborating with UMass Donahue Institute to test against market and comparable cities
- Next step: modeling local & regional impacts
  - Demographics
  - Employment & Economy
  - **Shifts in travel demand** – critical to future-proofing design alternatives

**Development  
Concept**

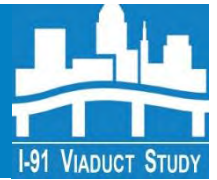
**Market Test  
(UMDI)**

**Jobs, People,  
Households**

***Effects On  
Springfield &  
The Region***



# Next Steps



- Complete TransCad Regional Modeling for Alternatives
- Complete Local Modeling utilizing Synchro and VISSIM
- Complete Evaluation Criteria Rating Process
- Final (2) Working Group Meetings & (1) Public Informational Meetings



# Project Schedule



I-91 VIADUCT STUDY

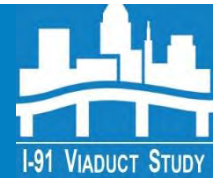
		2014				2015												2016												2017			
		SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
Task 1	Study Area, Goals & Objectives, Evaluation Criteria, and Public Involvement Plan																																
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Working Group Meeting

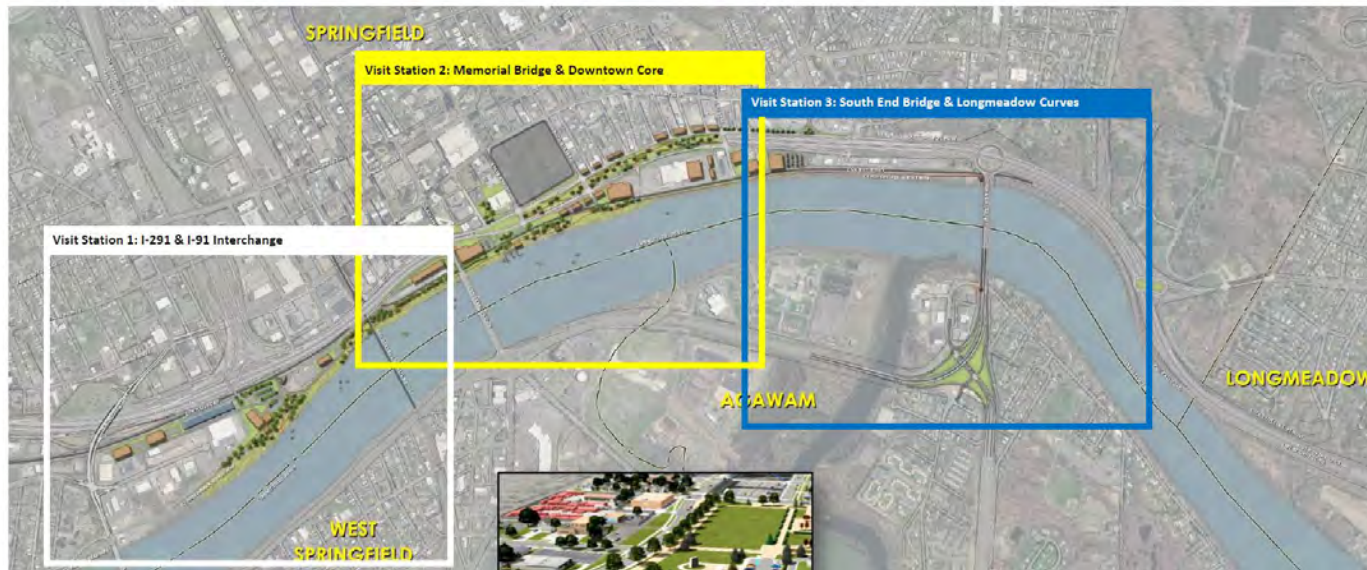
Public Meeting



# Part II: Break Out Session



## Alternative #1: Sunken, Tunnel, or Combination(s) Following Current I-91 Alignment



**Conceptual Planning Study:** This graphic represents a hypothetical development scenario that could be representative of potential future development along the I-91 Viaduct Corridor and is shown for general informational purposes. Any actual future development that occurs along this corridor may vary from this conceptual representation.



Visit the Study Website:  
[www.massdot.state.ma.us/i91viaductstudy](http://www.massdot.state.ma.us/i91viaductstudy)

Contact:

Ethan Britland, MassDOT Project Manager

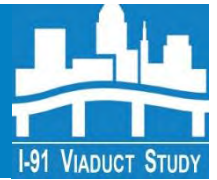
Phone: 857-368-8840

Email: [ethan.britland@state.ma.us](mailto:ethan.britland@state.ma.us)





# Questions & Comments



## Contacts:

Ethan Britland, Project Manager

Phone: 857-368-8840

Email: [ethan.britland@state.ma.us](mailto:ethan.britland@state.ma.us)

Michael Clark, Transportation Planner

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## Study Website Link:

[www.massdot.state.ma.us/i91viaductstudy](http://www.massdot.state.ma.us/i91viaductstudy)